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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,944	10/10/2006	Tomomichi Hashimoto	Q114482	3573
23373 7590 01/28/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER MOORE, MARGARET G				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
01/28/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/551,944

**Applicant(s)**

HASHIMOTO ET AL.

**Examiner**

Margaret G. Moore

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 to 22 is/are pending in the application.
- 4a) Of the above claim(s) 16 to 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 to 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S&C/2)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 10/25/06, 10/4/05

1. Applicant's election without traverse of Group I in the reply filed on 10/7/09 is acknowledged.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 8, 10, 11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyatake et al.

Miyatake et al. teach graft copolymers prepared by polymerizing a vinyl monomer onto a rubber that is a mixture of a silicone rubber and acrylic rubber latex (referred to as a coagglomerated rubber). Column 16, lines 51 and on, teach an amount of vinyl monomer (corresponding to vinyl monomer C) and coagglomerated rubber that meets the required amount of (C) and (A) as claimed. Please note that vinyl monomer (B) is not required in these claims.

Specifically, please see the working example 1 and those on Table 3. In Example 5, 60 parts of an agglomerated rubber containing 40% (24 parts by weight) of silicone rubber latex is present while 30 parts styrene and 10 parts acrylonitrile are reacted. Based on the total of these reactants, the amount of polyorganosiloxane in a latex state falls within the claimed range. This anticipates claim 1.

For claim 8, please note that styrene and acrylonitrile meet this limitation.

For claim 10, please see column 5, lines 21 and on. For claim 7, see column 7, line 53.

For claim 14, note that the flame retardant is defined solely by the graft copolymer. As such the graft copolymer of Miyatake et al. meets this requirement.

5. Claims 2 to 7, 9, 12, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyatake et al.

Miyatake et al. teach that the silicone rubber of the coagglomerated rubber can be a composite rubber of an acrylate and a silicone. Column 9, lines 25 to 45, teach the preparation of the silicone rubber by polymerizing the silicone rubber latex in the presence of an acrylic rubber latex seed. See specifically lines 40 to 45. This meets the requirement of claim 2. Thus, while Miyatake et al. do not specifically show an example of a graft copolymer prepared by reacting the amounts of polyorganosiloxane and vinyl monomer, wherein the polyorganosiloxane is prepared in the method claimed, one having ordinary skill in the art would have found such a graft copolymer to have been obvious.

For instance, in Example 7 Miyatake et al. includes a silicone rubber that is prepared in the presence of an acrylic rubber (A-4, shown on the bottom of column 19). According to the Examiner's calculations, the amount of silicone, based on the total of silicone and vinyl monomer (C), is 23 wt%. Adjusting this amount, however, such that it falls within the claimed amount would have been within the teachings of Miyatake et al. which allow for much larger amounts of silicone rubber latex than that shown in this one example.

On the other hand, it would have been obvious for one having ordinary skill in the art to use the silicone rubber latex A-4 instead of A-1 in Example 5, based on an expectation of obtaining comparable results from the different silicone rubber latexes. This would result in a composition wherein the polyorganosiloxane is prepared as in claim 2, in an amount meeting claim 1.

The top of column 10 teaches a particle size for the acrylic rubber latex meeting claim 3. See also column 20, line 13. Note that the acrylic rubbers on column 10, lines

21 and on, are the same as those found in page 9 of the specification. Note also that silicone rubber latex A-4 uses polybutyl acrylate.

For claim 5 please see column 4, lines 20 to 25, which teaches the silicone content in the silicone rubber latex. This embraces that claimed. One having ordinary skill in the art would have been motivated to work within the range disclosed by Miyatake et al. when preparing the silicone rubber latex therein and in this manner would have found the claimed amount to have been obvious.

For claims 6 and 7, note that the swelling volume is dependent upon the type of seed polymer and the particle size. Applicants admit this in their specification. Since both the particle size and the type of seed polymer are met by Miyatake et al., these ratios would appear to be inherently met as well.

For claim 9, the Examiner notes that column 12, lines 28 and on, refer to various peroxides that may be used as polymerization initiators. While this does not specifically refer to ones that meet the claimed properties, the Examiner notes that applicants admit that various hydroperoxides do meet these requirements. Hydroperoxides are well known polymerization initiators and one having ordinary skill in the art would have found the selection of such a common and well known initiator to have been obvious.

For claim 12, one having ordinary skill in the art would have found the combination of two different grafting units to have been obvious over the teachings of Miyatake et al., which refers to various types of grafting units on column 5, line 40, through column 6.

For claim 15, adjusting the amount of the graft copolymers in the thermoplastic resins disclosed on column 17 would have been obvious to one having ordinary skill in the art.

6. Claims 1, 2, 5 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 2002 201243, herein '243, as interpreted by the English language abstract (provided by applicants). The Examiner is in the process of obtaining an English language translation of this document.

'243 teaches the preparation of a composite particle in which a silane component is adsorbed in a seed polymer and subsequently polymerized. This meets the process of claim 2. To from 2 to 51 wt parts of this polysiloxane dispersion is added from 1 to 100 wt parts of a vinyl monomer (C). These amounts overlap with that claimed to such an extensive amount that the skilled artisan would have anticipated the claimed weight ranges in claim 1. This anticipates the instant claims.

For claim 5, note that the 1 wt part. seed polymer to 1 to 50 wt part siloxane reactant anticipates the claimed amount.

For claim 8, note that the polymerizable monomer © is preferably (meth)acrylate ester.

7. Claims 1 and 8 to 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Higaki et al.

Higaki et al. teach a graft copolymer obtaining by polymerizing a vinyl monomer onto a polyorganosiloxane. The amounts of vinyl monomer and polyorganosiloxane on column 5, lines 57 and on, overlap with that claimed to such a significant amount that the skilled artisan would have anticipated the claimed weight range in claim 1.

For claim 8, please see column 5, lines 36 and on.

For claim 9, please see column 6, line 38, which teaches menthane hydroperoxide, which applicants admit in the specification meet this requirement.

For claim 10, please see the grafting agent on column 3, lines 36 and on. Column 4, lines 33 and on, teach an amount meeting claim 11. Column 4, line 31, teaches that these grafting agents can be used in combination of two or more, meeting claim 12.

For claim 15, see column 7, lines 35 and on.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday and Wednesday to Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Margaret G. Moore/  
Primary Examiner, Art Unit 1796

mgm  
1/22/10